

# Lightweight Thermally Stable Multi-Meter Aperture Submillimeter Reflectors, Phase II

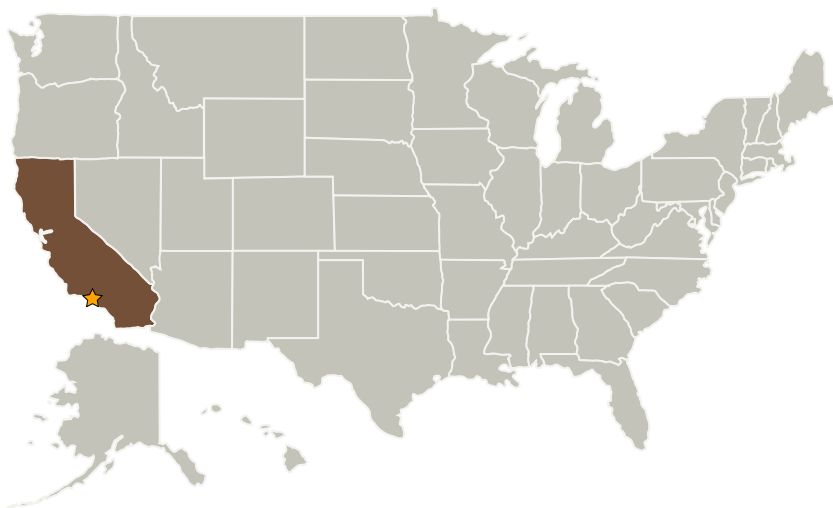
Completed Technology Project (2007 - 2009)



## Project Introduction

The objective of the Phase II effort will be an affordable demonstrated full-scale design for a thermally stable multi-meter submillimeter reflector. The Phase I effort resulted in a design for a thermally stable reflector which by analysis should survive the launch environment and satisfy the as manufactured surface tolerance and on orbit thermal stability requirements for operation at 660 GHz, as in a CAMEO SMLS type mission. The Phase I effort motivates the Phase II effort to demonstrate with flight-like hardware the thermal stability of the design developed in Phase I. The Phase I study answered fundamental questions about the important parameters affecting the hygro-thermal stability of a reflector. In the Phase II, we plan to develop the technology required to realize the important parameters for thermal stability and then demonstrate the predicted thermal stability with a flight-like test article.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Jet Propulsion Laboratory (JPL)	Lead Organization	NASA Center	Pasadena, California
Vanguard Space Technologies, Inc	Supporting Organization	Industry	San Diego, California



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## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission  
Directorate (STMD)

### Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

### Responsible Program:

Small Business Innovation  
Research/Small Business Tech  
Transfer

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## Primary U.S. Work Locations

California

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

Carlos Torrez

## Technology Areas

### Primary:

- TX14 Thermal Management Systems
  - └ TX14.3 Thermal Protection Components and Systems
    - └ TX14.3.1 Thermal Protection Materials